Shivaji S. (Shiv) Seth

Areas of Expertise
Nuclear Safety; reliability and risk analysis; design and analysis of nuclear systems; nuclear criticality; radiation protection; development and implementation of safety standards

Education
Ph. D. (1970) and M. S. (1967), Nuclear Engineering, Massachusetts Institute of Technology, Cambridge, MA
Associateship in Nuclear Physics, Saha Institute of Nuclear Physics, Calcutta, India
M. Sc. (1964) and B. Sc., Physics, Institute of Science, Nagpur, India

Work Experience
Dr. Seth is Senior Technical Advisor for Nuclear Safety at the Department of Energy s (DOE's) Hanford site, where he is currently focusing on the safety of nuclear facilities being deactivated and transitioned towards decommissioning. He is also Hanford s Senior Liaison to the Defense Nuclear Facilities Safety Board (DNFSB).

Previously, at The MITRE Corporation (1985 – 1996), Dr. Seth contributed significantly in the area of nuclear and chemical safety as the principal investigator and program manager responsible for guiding and managing numerous projects in support of the DNFSB, the U.S. Nuclear Regulatory Commission (USNRC), and the U.S. Army's Chemical Weapons Stockpile Disposal Program. For the DNFSB, Dr. Seth led team investigations and conducted the review and evaluation of safety standards at various defense nuclear facilities. For the USNRC, he developed regulatory requirements and guidance as part of several major initiatives, which included the rulemaking for renewal of nuclear power plant operating licenses; use of safety-critical software in nuclear power plants; and analysis of plant transients caused by balance-of-plant problems. For the Army, he conducted safety reviews and probabilistic risk assessments (PRAs) of chemical weapons demilitarization facilities and operations.

During the period 1983 - 1985, Dr. Seth served as Senior Fellow to the USNRC s Advisory Committee on Reactor Safeguards (ACRS). He provided consultations and recommendations to the ACRS on safety reviews of nuclear power plants, and on a wide range of safety and regulatory issues, including seismic risk criteria and the use of PRAs in evaluating safety goals and severe accident policies.

At the General Atomic Company (1978 – 1983), Dr. Seth was responsible for core design and fuel cycle optimization for two major high-temperature gas-cooled reactor projects. Later, he performed safety, reliability and risk analyses for nuclear plants, radioactive waste storage, and other industrial facilities.

From 1970 to 1978, Dr. Seth was responsible for the planning and analysis of critical experiments in support of physics and safety investigations of fast and thermal reactor cores at the Swiss Federal Institute for Reactor Research. There he was also licensed to supervise reactor operations and a mixed-oxide nuclear fuel handling facility. As a graduate research assistant at the MIT Reactor, from 1965 to 1970, Dr. Seth performed experimental and theoretical studies of heavy-water moderated enriched-uranium reactor lattices.

Dr. Seth has over seventy-five technical publications, including papers in peer-reviewed journals and conferences.